

General

Title

Avoidance of antibiotic treatment in adults with acute bronchitis: percentage of adults 18 to 64 years of age with a diagnosis of acute bronchitis who were not dispensed an antibiotic prescription.

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of adults 18 to 64 years of age with a diagnosis of acute bronchitis who were not dispensed an antibiotic prescription on or three days after the Index Episode Start Date (IESD).

This measure assesses whether antibiotics were inappropriately prescribed for healthy adults 18 to 64 years of age with bronchitis and builds on an existing HEDIS measure that targets inappropriate antibiotic prescribing for children with upper respiratory infection (URI). See the related National Quality Measures Clearinghouse (NQMC) summary of the National Committee for Quality Assurance (NCQA) measure [Appropriate treatment for children with upper respiratory infection \(URI\): percentage of children 3 months to 18 years of age who were given a diagnosis of URI and were not dispensed an antibiotic prescription.](#)

Note: This measure is reported as an inverted rate ($1 - [\text{numerator}/\text{eligible population}]$). A higher rate indicates appropriate treatment of adults with acute bronchitis (i.e., proportion for whom antibiotics were *not* prescribed).

Rationale

Antibiotics are most often inappropriately prescribed for adults with acute bronchitis (Gonzales et al., "Excessive antibiotic use," 2001). Antibiotics are not indicated in clinical guidelines for treating adults with acute bronchitis who do not have a comorbidity or other infection for which antibiotics may be appropriate (Gonzales et al., "Acute respiratory tract infections," 2001; Gonzales et al., "Nonspecific upper respiratory tract infections," 2001). Inappropriate antibiotic treatment of adults with acute bronchitis is of clinical concern, especially since misuse and overuse of antibiotics lead to antibiotic drug resistance (Steinman et al., 2004). Acute bronchitis consistently ranks among the 10 conditions that account for the most ambulatory office visits to United States (U.S.) physicians; furthermore, while the vast majority of acute bronchitis cases (more than 90 percent) have a nonbacterial cause, antibiotics are inappropriately prescribed 65 to 80 percent of the time (Gonzales et al., "Excessive antibiotic use," 2001; McCaig, Besser, & Hughes, 2003).

Evidence for Rationale

Gonzales R, Bartlett JG, Besser RE, Cooper RJ, Hickner JM, Hoffman JR, Sande MA. Principles of appropriate antibiotic use for treatment of acute respiratory tract infections in adults: background, specific aims, and methods. *Ann Intern Med.* 2001 Mar 20;134(6):479-86. [PubMed](#)

Gonzales R, Bartlett JG, Besser RE, Hickner JM, Hoffman JR, Sande MA. Principles of appropriate antibiotic use for treatment of nonspecific upper respiratory tract infections in adults: background. *Ann Intern Med.* 2001 Mar 20;134(6):490-4. [34 references]

Gonzales R, Malone DC, Maselli JH, Sande MA. Excessive antibiotic use for acute respiratory infections in the United States. *Clin Infect Dis.* 2001 Sep 15;33(6):757-62. [PubMed](#)

McCaig LF, Besser RE, Hughes JM. Antimicrobial drug prescription in ambulatory care settings, United States, 1992-2000. *Emerg Infect Dis.* 2003 Apr;9(4):432-7. [PubMed](#)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

Steinman MA, Sauaia A, Maselli JH, Houck PM, Gonzales R. Office evaluation and treatment of elderly patients with acute bronchitis. *J Am Geriatr Soc.* 2004 Jun;52(6):875-9. [PubMed](#)

Primary Health Components

Acute bronchitis; antibiotic treatment

Denominator Description

Adults 18 years of age as of January 1 of the year prior to the measurement year to 64 years of age as of December 31 of the measurement year, with a Negative Medication History, a Negative Comorbid Condition History and a Negative Competing Diagnosis, who had an outpatient visit, an observation visit or an emergency department (ED) visit with any diagnosis of acute bronchitis during the Intake Period (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Dispensed prescription for antibiotic medication on or three days after the Index Episode Start Date (IESD) (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

- Antibiotics cost the health care system billions of dollars each year, and treating conditions such as acute bronchitis adds to the cost. Current guidelines recommend against antibiotic treatment for acute bronchitis in adults who are otherwise healthy (Centers for Disease Control and Prevention [CDC], "Antibiotic resistance," 2013; CDC, "Acute cough illness," 2013) because overuse can lead to antibiotic resistance (CDC, "Bronchitis," 2013).
- The United States spends approximately \$55 billion in health service costs and lost productivity due to antibiotic-resistant bacteria (Smith & Coast, 2013).
- More than 60 to 90 percent of patients with acute bronchitis who seek care are given antibiotics (Evertsen et al., 2010; Kroening-Roche et al., 2012).
- Most healthy people who get acute bronchitis get better without antibiotics; complications usually occur in older adults and children, and in people with other health issues ("Acute bronchitis," 2012).
- Acute bronchitis almost always gets better on its own; therefore, adults who do not have other health problems should not take antibiotics. Ensuring the appropriate use of antibiotics for patients with acute bronchitis will help them avoid harmful side-effects and possible resistance to antibiotics over time.

Evidence for Additional Information Supporting Need for the Measure

Acute bronchitis—topic overview. [internet]. New York (NY): WebMD, LLC; 2012 [accessed 2014 Jun 09].

Centers for Disease Control and Prevention (CDC). Acute cough illness (acute bronchitis): physician information sheet (adults). [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2013 [accessed 2014 Jun 09].

Centers for Disease Control and Prevention (CDC). Get smart: know when antibiotics work—antibiotic resistance questions & answers. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2013 [accessed 2014 Jun 09].

Centers for Disease Control and Prevention (CDC). Get smart: know when antibiotics work—bronchitis (chest cold). [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2013 [accessed 2014 Jun 09].

Evertsen J, Baumgardner DJ, Regnery A, Banerjee I. Diagnosis and management of pneumonia and

bronchitis in outpatient primary care practices. Prim Care Respir J. 2010 Sep;19(3):237-41. [PubMed](#)

Kroening-Roche JC, Soroudi A, Castillo EM, Vilke GM. Antibiotic and bronchodilator prescribing for acute bronchitis in the emergency department. J Emerg Med. 2012 Aug;43(2):221-7. [PubMed](#)

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. 205 p.

Smith R, Coast J. The true cost of antimicrobial resistance. BMJ. 2013;346:f1493. [PubMed](#)

Extent of Measure Testing

All HEDIS measures undergo systematic assessment of face validity with review by measurement advisory panels, expert panels, a formal public comment process and approval by the National Committee for Quality Assurance's (NCQA's) Committee on Performance Measurement and Board of Directors. Where applicable, measures also are assessed for construct validity using the Pearson correlation test. All measures undergo formal reliability testing of the performance measure score using beta-binomial statistical analysis.

Evidence for Extent of Measure Testing

Rehm B. (Assistant Vice President, Performance Measurement, National Committee for Quality Assurance, Washington, DC). Personal communication. 2015 Mar 16. 1 p.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Emergency Department

Hospital Outpatient

Managed Care Plans

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age 18 to 64 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Data Collection for the Measure

Case Finding Period

January 1 to December 24 of the measurement year

Denominator Sampling Frame

Enrollees or beneficiaries

Denominator (Index) Event or Characteristic

Clinical Condition

Encounter

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

Adults 18 years of age as of January 1 of the year prior to the measurement year to 64 years of age as of December 31 of the measurement year, with a Negative Medication History, a Negative Comorbid Condition History and a Negative Competing Diagnosis, who had an outpatient visit (Outpatient Value Set), an observation visit (Observation Value Set) or an emergency department (ED) visit (ED Value Set) during the Intake Period with any diagnosis of acute bronchitis (Acute Bronchitis Value Set)

Note:

Members must have been continuously enrolled one year prior to the Episode Date through 7 days after the Episode Date (373 total days).

Allowable Gap: No more than one gap in continuous enrollment of up to 45 days is permitted from 365 days (1 year) prior to the Episode Date through 7 days after the Episode Date. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage.

Episode Date: The date of service for any outpatient or ED visit during the Intake Period with a diagnosis of acute bronchitis.

Intake Period: January 1 to December 24 of the measurement year. The Intake Period captures eligible episodes of treatment.

Negative Medication History: To qualify for Negative Medication History, the following criteria must be met:

A period of 30 days prior to the Episode Date, when the member had no pharmacy claims for either new or refill prescriptions for a listed antibiotic drug.

No prescriptions filled more than 30 days prior to the Episode Date that are active on the Episode Date.

A prescription is considered active if the "days supply" indicated on the date when the member filled the prescription is the number of days or more between that date and the relevant service date. The 30-day look back period for pharmacy data includes the 30 days prior to the Intake Period.

Negative Comorbid Condition History: A period of 12 months prior to and including the Episode Date, when the member had no claims/encounters with any diagnosis for a comorbid condition.

Negative Competing Diagnosis: A period of 30 days prior to the Episode Date through 7 days after the Episode Date (38 total days), when the member had no claims/encounters with any competing diagnosis.

Refer to the original measure documentation for steps to identify the eligible population.

Exclusions

Do not include ED visits that result in an inpatient admission.

Test for Negative Comorbid Condition History. Exclude Episode Dates when the member had a claim/encounter with any diagnosis for a comorbid condition during the 12 months prior to or on the Episode Date. A code from any of the following meets criteria for a comorbid condition:

HIV Value Set

Malignant Neoplasms Value Set

Emphysema Value Set

COPD Value Set

Cystic Fibrosis Value Set

Comorbid Conditions Value Set

Test for Negative Medication History. Exclude Episode Dates where a new or refill prescription for an antibiotic medication was filled 30 days prior to the Episode Date or was active on the Episode Date (refer to Table AAB-D in the original measure documentation for a list of antibiotic medications).

Test for Negative Competing Diagnosis. Exclude Episode Dates where during the period 30 days prior to the Episode Date through 7 days after the Episode Date (38 total days) the member had a claim/encounter with any competing diagnosis. A code from either of the following meets criteria for a competing diagnosis:

Pharyngitis Value Set

Competing Diagnosis Value Set

Value Set Information

Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the [NCQA Web site](#) to purchase HEDIS Volume 2, which includes the Value Set Directory.

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Dispensed prescription for antibiotic medication on or three days after the Index Episode Start Date (IESD). Refer to Table AAB-D in the original measure documentation for a list of antibiotic medications.

Note:

This measure is reported as an inverted rate ($1 - [\text{numerator}/\text{eligible population}]$). A higher rate indicates appropriate treatment of adults with acute bronchitis (i.e., proportion for whom antibiotics were *not* prescribed).

IESD: The earliest Episode Date during the Intake Period that meets all of the following criteria:

30-day Negative Medication History prior to the Episode Date.

A 12-month Negative Comorbid Condition History prior to and including the Episode Date.

A Negative Competing Diagnosis during the 38-day period from 30 days prior to the Episode Date through 7 days after the Episode Date.

The member was continuously enrolled one year prior to the Episode Date through 7 days after the Episode Date.

Exclusions

Unspecified

Value Set Information

Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the [NCQA Web site](#) to purchase HEDIS Volume 2, which includes the Value Set Directory.

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Pharmacy data

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Description of Allowance for Patient or Population Factors

This measure requires that results are reported separately for commercial and Medicaid product lines.

Standard of Comparison

not defined yet

Identifying Information

Original Title

Avoidance of antibiotic treatment in adults with acute bronchitis (AAB).

Measure Collection Name

HEDIS 2016: Health Plan Collection

Measure Set Name

Effectiveness of Care

Measure Subset Name

Overuse/Appropriateness

Submitter

National Committee for Quality Assurance - Health Care Accreditation Organization

Developer

National Committee for Quality Assurance - Health Care Accreditation Organization

Funding Source(s)

Unspecified

Composition of the Group that Developed the Measure

National Committee for Quality Assurance's (NCQA's) Measurement Advisory Panels (MAPs) are composed of clinical and research experts with an understanding of quality performance measurement in the particular clinical content areas.

Financial Disclosures/Other Potential Conflicts of Interest

In order to fulfill National Committee for Quality Assurance's (NCQA's) mission and vision of improving health care quality through measurement, transparency and accountability, all participants in NCQA's expert panels are required to disclose potential conflicts of interest prior to their participation. The goal of this Conflict Policy is to ensure that decisions which impact development of NCQA's products and services are made as objectively as possible, without improper bias or influence.

Endorser

National Quality Forum - None

NQF Number

not defined yet

Date of Endorsement

2014 Dec 23

Core Quality Measures

Accountable Care Organizations (ACOs), Patient Centered Medical Homes (PCMH), and Primary Care

Measure Initiative(s)

Physician Quality Reporting System

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Oct

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

This measure updates previous versions:

National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

Measure Availability

Source available for purchase from the [National Committee for Quality Measurement \(NCQA\) Web site](#)

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For more information, contact NCQA at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org .

Companion Documents

The following are available:

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct. 205 p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical update. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct 1. 12 p.

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street,

NQMC Status

This NQMC summary was completed by ECRI on June 6, 2006. The information was not verified by the measure developer.

This NQMC summary was updated by ECRI Institute on November 15, 2007. The information was not verified by the measure developer.

This NQMC summary was updated by ECRI Institute on March 10, 2009. The information was verified by the measure developer on May 29, 2009.

This NQMC summary was updated by ECRI Institute on January 15, 2010 and on February 16, 2011.

This NQMC summary was retrofitted into the new template on June 29, 2011.

This NQMC summary was updated by ECRI Institute on May 16, 2012, April 1, 2013, January 10, 2014, December 9, 2014, and again on February 9, 2016.

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Production

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

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